

1. What do you gain from using new technology? What do you lose?

Donna

Apart from the headaches and bad posture that are part and parcel of working with computers, I find technology an incredibly useful and challenging tool. As a vocalist I am keen to embrace available technologies as a way of extending the voice beyond the physical limitations of the body, exploring and subverting existing expectations and representations of the voice. Technology allows the voice to become more than a single line above a texture; it allows it to become a thick textural accompaniment itself. We can 'magnify' and hear the complexities of the voice, extend the dynamic and frequency ranges or we can process the voice till it is barely recognisable.. and do all of that (and more) in real time.

What do you lose?

As long as technology is encouraging us as artists to keep thinking about what we are doing, why we are doing it and how we do it, I don't think we can really say we lose anything. I have found plenty of problematic technical and aesthetic issues associated with my own electro-acoustic vocal practice, but I try not to see this as a negative, rather I see it as a developing process and part of gaining experience with the medium. Learning to use the tools is like learning your scales on the piano in many respects, it becomes part of your technique and the better your technique and knowledge, the better one is able to respond musically. The development of the eMic was in response to some of the 'deficiencies' I encountered in using technology in my performances. While the practice of using laptops in performance gave me increased control over the sound of my voice in the sound re-inforcement system and allowed me to extend my vocal palette via digital signal processing, I found the communicative experience for the performer & audience suffered as did my ability to vocalise from a sitting position. The eMic is attempting to address these issues and it brings with it a whole heap of new issues, for example, I have had to modify the way I compose because I find it necessary to physically interact with the eMic in the experimental/compositional stages of creating a work. I would normally pre-record the vocal materials and use them as a substitute for the live vocal, but I find I need to work with the live materials, so I don't get put off by the processing when it comes to the live performance context. I guess this is one way of re-integrating the body into the creation of music. Electronic music is often criticised for alienating or excluding the body, an idea that has inspired many to explore gestural controller research.

Julian

I think my primary interest in technology lies in the ability to access the entire field of sound as potential musical material and in a long standing interest in studio based composition, or the practice of shaping sound materials in a concrete fashion. I am very interested in uncovering the inner qualities of sound via processes which could be called 'subtractive' (ie starting with complex sonic phenomena and revealing sub-structures or detail within the whole). That is not to say that I exclusively use

subtractive processing (filtering etc...) but that the intention is to reveal aspects of sound that are often masked, hidden or largely un-noticed. I'd also like to mention that my interest in technology as a compositional tool extends beyond 'electronic music' to the construction of music works from acoustic/organic phenomena and in this sense technology allows you to seriously mess with temporal processes and space.

The primary gains I see are the ability to work in a 'pansonic' fashion, by that I mean that I have a vast palette for orchestration, with the ability to juxtapose and interplay somewhat unlikely sound materials. A useful metaphor is that of cooking. Two unlikely tastes can converge to produce something quite remarkable and unexpected. The juxtaposition of, say, night insects and fuzz guitars would not be an obvious sound combination, but the high/mid frequency relationships can produce a unique sound mass that speaks beyond the sum of its parts.

Paul Virilio in his book 'Speed and Politics' talks a lot about the tendency for technology to collapse space, in that it allows us to move with greater velocity (= speed). Technology allows us to move very quickly from one point to another either physically (in planes, cars and so on) or virtually (via telephony and the internet). I see this principle strongly in operation in the world of sound and music, in that cultural and physical spaces are collapsing via an increase in spatial velocity. Electricity and digital technology are major players in this rather startling (and sometimes unsettling) tendency. Virilio's analysis is not entirely positive, in that he sees speed as a major contributor to global conflict (=politics). An attendant concept is that velocity/speed = power and it follows that those in possession of speed have the greater propensity to accumulate power. This to me is a very useful musical concept, although it can lead one into very dangerous cultural territory. That said, I tend to make quite slow music, but there is a massive (implied) velocity in bringing the sounds into that collapsed sonic space. My sounds come from all corners of the physical, telephonic and virtual worlds to co-exist in the same temporal space and therein lies the speed of my music. This process has been enabled, in every sense, by technology.

Virilio clearly lays out the less-than-utopian view of technology, alongside the seduction which it provides. Those of us who work on a daily basis with technology are confronted with these two valent forces. If I were to articulate what I lose, then I would have to say that despite all efforts to date, electronic space is disappointingly regular in its behaviours outside the word of glitch, crashes and noise, which in themselves can become somewhat predictable... ie you know what you can do to crash your OS, you know that if you normalise analog to digital converter artefacts then you will hear modulated noise, you know that discontinuities in waveforms will produce clicks.. and you end up asking your technology to surprise you.. I see the more recent aesthetic trends in this area (glitch/noise) as far from co-incidental, as I think that those of us who have completely immersed ourselves in this thing for some time have come to crave a higher degree of chaos and malfunction. Acoustic phenomena and the real sonic environment are incredibly chaotic (or seemingly so at least) as there are billions of parameters in operation at any one moment in time. A nice exercise is to spend a good 8 hours in front of your computer and studio monitors and then step outside for a while, just to listen to outside air. I find this kind of exercise very informative and deepens your understanding of the medium in which you work.

I also think that we are a long way off achieving truly responsive interfacing. Let's take an acoustic guitar for example... a simple vibrating string over a resonator yields a massive set of variables to explore. So sophisticated and responsive is the interface between human and string, that it is virtually impossible to reproduce the same sonic event twice. Once you start thinking about 6 strings and the summative effects of those then the whole matter gets completely out of hand.... We often don't stop to think about how massively complex such an ordinary musical system actually is. I have found that the more I work with technology, the more refined my appreciation of the most simple of acoustic phenomena becomes, which, I guess, is why I capture and use so many of them in my electronic music.. I would say that a definite gain is an massive increase in the acuity of my listening in a critical sense, which has very much informed my understanding of sound in both a conceptual and physical sense.

This constant trade-off between the complexity and simplicity of sound has possibly fueled some of the new movements in electronic music. I don't think it's that surprising to see the rise of 'new electronic minimalism' and the huge numbers of artists working with pure tones and oscillators. Take someone like Sachiko M. for example. Her use of simple switchable test tone oscillators presents us with the most minimal of musical resources in both a technological and aural sense. This immediately shifts us into an active listening mode where we listen to the interaction of the tone with the space and our auditory mechanism with 'climaxes' provided by ruptures caused by silence or a frequency change. It is very clear that electronic resources provide the most powerful means for pure tone minimalism - it's highly idiomatic and this level of stability or purity could only be produced using electronic media. It is also possible that we may be chasing our tails here and what we are actually grappling with is fundamental definitions of idiom in relation to electronic music.

Will

I don't really use new technology, but rather different ways of dealing with familiar sounds and instruments.

2. Do you attribute the use of custom-made technologies/instruments to a part of your musical personality?

Donna

The development of the eMic very much stems from my previous creative work and musical experience which I feel was really split into two areas, 1) my work as a composer/performer of electro-acoustic music which came out of an academic context and 2) my work as a singer performing popular, rock and folk styles. The eMic was a way of bringing together the positive aspects of each of those practices. For example, I enjoy the audience interaction that I get from my work performing established genres, whereas I enjoy the more experimental nature and ability to extend and explore the possibilities that digital signal processing has to offer in my electro-acoustic compositions and performances.

Will

I think my musical personality comes out in many different areas using many different instruments. I play percussion, junk, lost and found, homemade and instruments made by Melbourne based musician Rod Cooper. But I also get a lot of pleasure playing drum-kit. I think that these very personal objects (found, homemade etc) may be to other people, sounds that they would associate with my playing because they have heard me play these sounds. However for me it is more about the approach to music rather than what instruments I am working with. If I am playing Rod Cooper's instruments, radios, straight drum-kit or what ever (!) I hope my musical personality would still come through.

3. As a performer do you gain more satisfaction exploring new musical technologies or in the reappropriation of familiar/traditional ones?

Donna

I wouldn't say I preferred one or the other, in fact, my approach in developing the eMic was to draw from existing performance practice and combine that with new musical technologies. The eMic is a modified microphone stand fitted with various sensors that capture existing and new physical performance gestures. The design was based on the commonalities of singer interactions with microphones and microphone stands. Vocalists use a range of common gestures when they perform with a microphone and stand, included tilting the stand, gripping the microphone etc., and I decided to capture these gestures via a range of sensors in order to create a device that could be used to control real time signal processing of the voice. The eMic is a technological development that borrows from existing practice and addresses some of the perceived deficiencies of laptop based vocal performance, but also provides opportunities to explore new musical territory.

Julian

I actually haven't spent huge amounts of my time on custom technologies, preferring instead to find unusual ways of using existing ones. That said, I do feel that my use of technologies is highly personalised and idiosyncratic. There is no 'standard technique' in electronic music, even though there are significant orthodoxies on a musical level. I would like to think that my personal quirks and weird obsessions with certain ways of working manifest themselves in a fairly distinctive musical outcome. The more I listen to my work, the more I realise that it sounds like me. This took me a while, funnily enough.... I was much slower in recognising myself than others were, which is interesting in itself.

I am definitely an abuser/user of existing technologies, but the assemblage of them is quite personal. I have a pretty diverse musical background from pop music, through sound design/production to experimental music and I've assembled a whole lot of 'tricks' and 'trade secrets' from those experiences. I will often use 10-20 different software environments in any one piece, as I see them all as instruments in an orchestra, each one with its own particular subtle quality. All bandpass filters are not created equal, the same applies to granulators, phase vocoders, reverbs, comb filters and so on... Without wanting to appear rude or ungenerous, I often find pieces that people have made entirely in one environment to be marked very strongly as such. You need to be very inventive to rise above the orthodoxies which that environment is trying its best to force you into. Some people are very successful in doing this, others far less so. I would imagine that many others know precisely what I'm talking about here... It's a question you always need to be asking yourself.

I think that my music contains a great many traditions embedded within it, but they are radically re-contextualised to only leave faint traces of the source. I will relate a rather amusing anecdote. I remember doing an academic computer music gig once and an electro-acoustic music composer (in the traditional sense) asked me how I got the voice to sound just like a pop singer's voice. I told them that I used a 'compressor'

on it, slammed it quite hard with a quick release, brought out a touch of 6-7k and a bit of 12k, put a very low level stereo double on it and lastly a medium hall with a good dose of pre-delay. Now a rock engineer would know this like the back of their hand, but this is very foreign territory indeed for a lot of electro-acoustic music composers. I am amazed at how many electro-acoustic composers there are out there who've never, ever used a compressor. A month or two ago, I came across a web site which was a glossary of terms for students studying electronic music. It was housed at a fairly well known university. I came across a definition for 'ducking' which suggested that it was a form of gating (ie expansion). Clearly no-one in their studio had ever keyed a mix under a snare, or solved a mix problem by keying a block of midrange material to duck under a vocal. If they had, they would know that it was a keyed compression technique. This is a long-winded way of saying that they have never mixed pop music. On the other hand, however, I've not met too many pop music engineers who break out the granulators, or a max/msp patch - this is often seen as being far too esoteric.. What this indicates is that there are very specific cultures within the vast world of music and technology and a set of tools which typically surround particular groups. I guess I have made it my particular business to draw upon an eclectic range of these cultures which by definition means that I combine tools and techniques in a hybridised fashion. Herein lies the essence of my practice - the hybridisation and re-contextualisation of multiple practices and tools. I feel I have been able to retain a modicum of integrity in this process by virtue of the fact that I have spent parts of my musical life operating within these domains, which hopefully assists in steering myself out of pure 'bowerbird-ism'. I am clearly not alone in this fascination and there are a number of pop musicians who use an obscure collection of soft and hardware environments. Kraftwerk would be an obvious earlier example and let's not forget that Trent Reznor used to hang out on the soundhack list in the mid nineties.

In my view, one can be overly obsessed with technology and to forget that the practices and techniques in relation to technology are as, if not more, important. Really great or awful music can be made with the same technology, so to be too obsessed with the tools can make you miss the point entirely. The more I work in this area, the more stark this realisation becomes. The very best music surpasses the technology and almost makes it pointless to worry about the 'how'. That said, as artists, when we hear something amazing, we often want to know the 'how' so we can snaffle the technique!!! Pop does indeed eat itself and that's a beautiful thing, as long as you make sure you eat at lots of restaurants, leave time for things to settle and think before you regurgitate your meal.

Will

Probably the re-use of the familiar, but trying to not have them sound like the familiar. Trying to see what else I can do with a drum, gong etc. I like trying to get interesting sounds out of pretty much 'everyday' materials also.

4. Do you feel that artists play new technologies, or that new technologies play the artist?

Donna

Technology can certainly alter our approach to composing and playing as it has done in my experience in developing the eMic. The technology does not always behave in the intended or desired way, but, I often find the unexpected outcomes and limitations of technologies can make the work more interesting than the original artistic intention. I like to think of them as happy accidents.

I do find generally if the composer/performer has a good handle on the technology they are using, that they tend to have increased ability to play it/use it in the way they desire - as I said before it is about developing a technique. Having said that technique is not everything and to use the piano players analogy once again, I have heard many a pianist perform super fast showy pieces that are completely uninteresting in every other respect. It is easy to get obsessed with the tools rather than using them as means to an end. I even find a little bit of software snobbery occurring at times, where it is more respected to use tools that are complicated or difficult. Just because a tool is complicated or difficult to use does not mean it will yield better musical outcomes. The challenge with using a lot of software is to maintain a unique compositional voice through the often, familiar sounding processors. This is one of the attractive qualities of using human voice in my work, every voice is unique and I try to allow that uniqueness to emerge through the technology, not allowing the sound of a processor to completely dominate the composition. I also like the idea of the composer using their individual voice as sound material giving the work a sense of unity. The human is at the centre of the technology both as the sound source and as the manipulator of the sound.

Julian

I would say it's impossible to answer that question in a generic sense. Each artist sits differently in the grey area between that binary and I would suggest that it is very difficult for any individual to be theoretically or practically situated at either extreme. If I am to interpret the question as stimulus for contemplation on the relationship between artists and technologies and notions of control/command of resources, then I would firstly say that to work with new technology is to (by definition) struggle with boundaries set by interfacing technology, software, loudspeakers and so on. All of the various components imply certain limits and at the same time the environments are unstable in that they change so rapidly. To be committed to the utilisation of new technologies is to subject oneself to the constant re-learning of one's instrument which has its own special frustrations. It implies that you will spend a great deal of your time in research driven spaces which may, at times, provide little apparent return. The incentive to remain engaged is the lure of pushing those boundaries out further and to achieve breakthroughs which will open up entirely new spaces for your work. Although many of us may see this engagement as a constant struggle, we are often oblivious to the incredible progress we have made and the fluencies achieved in the process of making sound and music. I would say that all instruments (electronic and

acoustic) imply limits of varying degrees and the matter of control relates to one's mastery of the resources. If you don't play the violin, it's a pretty uncontrollable interface. The difference with electronic resources is the issue of instability in the form of the interface, as opposed to the stability afforded by acoustic instruments which have remained largely unchanged for significant periods of time.

All that said, I like to pick up a guitar on a regular basis.... which tells you something about working with technology. The effortless complexity of organic sound has a strong appeal in relation to the oftentimes 'ordered complexity' of electronic resources.

Will

I think once again it really depends on the artist, not the material or technologies they are using. I've heard musicians (trained, untrained, buskers, academic, derelict etc) get the most incredible sounds out of very little material-It has been fantastic because it has made me feel something, they have conveyed some of their personality.

Whereas you can see events with the most newest , bestest rah rahs but if it hasn't expressed any kind of personality, emotion or individuality then it rarely means much to me. It is the same with myself performing-there has been times when I have taken two truck loads of gear-percussion, mountains of drums etc and set it all up, and then not known what to do with it! Then there has been other times when I've taken 1 or 2 objects and made some fantastic music.